SPECIFICATION AMENDMENTS

On page 1, lines 5-9, paragraph [0001], please amend as follows:

"~~This application claims priority of U.S. Provisional Application No. 60/472,647 filed May 22, 2003 entitled, "Method for and off of a Telephone Call between Two Different Wireless Networks" by Rick Bye, and is incorporated herein by reference in its entirety.~~

Provisional priority claims

The present U.S. Utility Patent Application claims priority pursuant to 35 U.S.C. § 119(e) to the following U.S. Provisional Patent Application which is hereby incorporated herein by reference in its entirety and made part of the present U.S. Utility Patent Application for all purposes:

1. U.S. Provisional Application Serial No. 60/472,647, entitled "Method for and off of a Telephone Call between Two Different Wireless Networks," (Attorney Docket No. BP2961), filed 05-22-2003, pending."

On page 2, line 15 to page 4, line 18, please amend as follows:

"Local Area Networks (wired LANs), e.g., Ethernets, support communications between networked computers and other devices within a serviced area. These wired LANs often link serviced devices to Wide Area Networks (e.g., WANs) and the Internet. Each of these networks is generally considered a "wired" network, even though some of these networks, e.g., the PSTN, may include some transmission paths that are serviced by wireless links.

Wireless networks have come into existence more recently. Examples include cellular telephone networks, wireless LANs (WLANs), and satellite communication networks. Common forms of WLANs such as IEEE 802.11(a) networks, IEEE 802.11(b) networks, and IEEE 802.11(g) networks are referred to jointly as "IEEE 802.11 networks." In a typical IEEE 802.11 network, a wired backbone couples to a plurality of wireless ~~Wireless~~ Access Points (APs), each of which supports wireless communications with computers and other wireless terminals that include compatible wireless interfaces within .a serviced area. The wired backbone couples the APs of the IEEE 802.11 network to other networks, both wired and wireless, and allows serviced

wireless terminals to communicate with devices external to the IEEE 802.11 network. Devices that operate consistently with an IEEE 802.11 protocol may also support ad hoc networking in which wireless terminals communicate ~~communicates~~ directly to one another without the presence of an AP.

Currently, Wireless Local Area Networks (WLANs) service a wide variety of data communications, typically relating to non-real-time ~~non-real-time~~ requirements. As the bandwidth delivered on the wireless links serviced by the WLANs increases, additional data communications may also be delivered, e.g., Voice Over Internet Protocol (VOIP), video conferencing, multi-media streaming, etc. However, when the WLAN supports many data transactions, the communications requiring continual throughput such as voice and multimedia communications may not be sufficiently serviced. The result of this shortcoming is reduced voice and video image quality, disconnection of the serviced communication, etc.

The shortcomings of the WLAN may be at the APs that service the wireless links within the WLAN. Each WLAN supports only a maximum throughput, e.g., 11 Mbps (mega-bits per second) ~~MBPS~~ for IEEE 802.11b APs and 54 Mbps ~~MBPS~~ for 802.11a and 802.11g APs. When a particular AP cannot service all of its client devices, latency in the communications will increase. Because the AP cannot typically assign priority to its serviced communications, some or all of the serviced communications are adversely affected.

The performance of the WLAN may also be affected by the switches, routers, nodes or other elements ~~routers, nodes or other elements~~ in the backbone network of the WLAN and/or gateways that couple the WLAN to a WAN ~~Wide Area Network (WAN)~~, to the Internet, to the Public Switched Telephone Network (PSTN) or to another servicing network. When these devices become overloaded, the WLAN serviced communications are also affected. Additionally, traffic within individual network segments may adversely impact communications."

On page 5, lines 8-12, please amend as follows:

"Thus, a need exists for intelligent systems and components that can identify network or pathway problems in real-time and effect real-time solutions. ~~These~~

~~solutions may involve dynamically altering coding schemes, network pathways or dynamically assigning priorities to network communications.~~"

On page 6, lines 2-10, please amend as follows:

"This disclosure provides a system and method to service real-time audio and/or visual communications in a network environment that are negatively impacted by packet delay or packet losses, such as Voice over Internet Protocol (VoIP) or wireless terminals that transmit and receive communications in a digital form having discrete packets. More specifically, the present invention provides a dynamic real-time quality management of packetized communications in a network environment. Various solutions presented herein may involve dynamically altering coding schemes, network pathways or dynamically assigning priorities to network communications."

On page 7, line 23 to page 8, line 12, please amend as follows:

"When the real-time communications cannot be provided the predetermined service level, the processor may direct the real-time communications to be re-routed ~~rerouted~~ via another servicing network. Alternatively, the processor may direct that the real-time communications ~~communication~~ be prioritized over the non-real-time communications.

Each packetized communication has a pair of signatures: ~~signatures,~~ a receive signature corresponding to communications received from a corresponding wireless terminal via the wireless interface and a transmit signature corresponding to communications received via the WLAN backbone interface and intended for the corresponding wireless terminal. The receive signature is primarily employed to determine whether the packetized communication is a real-time communication. Problems in this signature typically indicate problems with wireless link of AP.

The transmit signature usually indicates problems (network impediments) within other portions of the communication path. Such network impediments may result in non-uniformity of receipt of the packetized communications from a near-end wireless terminal. This instance indicates problems in the wireless link. Non-uniformity or non-linearity of receipt of the packetized communications from a far-end

~~far-end~~ terminal indicates problems along the various network pathways between the AP and the far-end terminal."

On page 9, line 7 to page 10, line 15, please amend as follows:

"Packetized communications are exchanged between the servicing AP, the WLAN terminal, and the WLAN backbone network, ~~network;~~ the VoIP terminal, intelligent VoIP network interface and backbone network, ~~network;~~ or other network elements known to those skilled in the art, at a communication quality level. These communications are monitored to determine the communication quality level delivered between the servicing AP, the WLAN terminal, the WLAN backbone network, and the far-end terminal. The communications quality can be monitored within switches, routers, handsets, nodes, access points or other elements within the network infrastructure known to those skilled in the art. Monitoring the packetized communications from end-to-end supports the management of the coding scheme and routing of the packetized communications. The CODEC or communication pathway may be revised to improve service by selecting one or more ~~a~~ new coding schemes based upon the communication quality level delivered or by selecting a new pathway. This communication quality level depends on the jitter experienced by the communications, the number and frequency of lost packets, the arrival or transmission rate of the packetized communications, and other such factors known to those skilled in the art.

By monitoring the packetized communications from end-to-end, the method can intelligently manage the selected coding scheme and routing of the packetized communications. For example, in one instance, the processor communicates with a far-end terminal to identify an appropriate coding scheme. These coding schemes may include, but are not limited to audio and/or video coding schemes ~~scheme~~ such as Huffman encoding, ITU-T G.711, u-law, A-law, CCITT G.721, CCITT G.723, ITU-T G.726, ITU-T G.723.1, ITU-T G.723.1A, ITU-T G.729, ITU-T G.729A, ITU-T G.729AB, ITU-T G.729E, ITU-T G.728, ITU-T G.722, ITU-T G.722.1, ITU-T G.722.2, GSM-EFR, GSM AMR, IMA/DVI ADPCM, Microsoft ADPCM, LPC-10E, CELP GSM 06.10, shorten, Real Audio, 15 MPEG, ACE and MACE."

On page 10, line 24 to page 10, line 7, please amend as follows:

"This information allows the processor to select the route the communications take by choosing which network segments are used to route the communications or which AP is servicing the communication. In the case of the latter, ~~later,~~ the APs are queried to determine the expected service quality level from each AP. Then, the WLAN terminal registers with a new servicing AP when the expected service quality level to be provided by the new servicing AP exceeds the expected service quality level provided by the servicing AP by a predetermined service quality level."

On page 12, line 23 to page 13, line 2, please amend as follows:

"FIG. 5C depicts a process by which incoming ~~ingoing~~ and outgoing communications are received and the coding scheme and communication pathway are monitored and evaluated for potential changes which would improve the measured and perceived quality of the serviced communication;"

On page 18, line 1 to page 19, line 3, please amend as follows:

"FIGS. 4A-4D provide block diagrams illustrating the typical components of various wireless terminals. FIG. 4A depicts wireless terminal 400 as having only a short-range digital radio WLAN RF unit' 404A that supports Bluetboth@ or like wireless communications with the WLAN. FIG. 4B includes a cellular RF unit 404B that supports wireless communications with the cellular network. FIG. 4C includes a WLAN RF unit 404A and satellite RF. unit 404C. FIG. 4D includes WLAN RF unit 404A, cellular RF unit 404B, and satellite RF unit 404C. RF units, 404A, 404B and 404C couple to antennae ~~antennas~~ 402A, 402B and 402C respectively. These antennae ~~antennas~~ 402A, 402B, and 402C may be located internal or external to the case of the wireless terminal 400. Further, in some embodiments, a single RF unit and/or a single antenna may support communications with both the WLAN and the cellular network. Processor 406 may be an Application Specific Integrated Circuit (ASIC) or another type of processor capable of operating the wireless terminal 400 according to this disclosure. Memory 408 includes both static and dynamic components, e-g., DRAM,

SRAM, ROM, EEPROM, etc. In some embodiments, the memory 408 may be partially or fully contained within ~~upon~~ an ASIC that also includes the processor 406. A user interface 410 includes a display, indicators, a keyboard, a speaker, a microphone, and/or a data interface, and may include other user interface components known to those still in the art. RF interfaces 404A, 404B, and 404C, processor 406, memory 408, and user interface 410 couple via one or more communication buses/links 416. Battery 412 or power port 418 couples to and powers RE interfaces, processor, memory and the user interface."

On page 23, line 22 to page 24, line 3, please amend as follows:

"These same processing functions may be achieved with a quality-monitoring module 602 further detailed in FIG. 7B. If the WLAN AP with which ~~that~~ the wireless terminal communicates ~~with~~ does not have the ability to monitor and evaluate packetized communications, these functions may be supported ~~achieved~~ by quality monitoring module 602. Additionally, these modules, when located at nodes within the pathway, may supplement the functions of APs having these abilities."

On page 24, line 21 to page 25, line 7, please amend as follows:

"FIG. 6B includes a bypass network such as PSTN, cellular, satellite, or other like network known to those skilled in the art. In this instance, quality-monitoring modules 602 may direct that if the primary communication pathways are unable to support the real-time communications between wireless terminal 10 and far-end terminal 614, then a bypass network 606B, such as one or more of those identified above, may be used in favor of WAN 606A. Quality monitoring modules 602, in addition to evaluating communication quality levels delivered by the network, and the coding schemes employed, may further direct that non-real-time communications receive a lower priority or be temporarily stored in a buffer, or be delayed to support real-time communications."